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(As written; not necessarily as delivered)

Thank you.

I am honored to be here with you today. You are very fortunate to have Pedro Ray as your new president. In addition to his work all over the world with IEEE, he is a business and community leader in Puerto Rico. Your president is a distinguished Georgia Tech alumnus. He earned both his bachelor's and master's degrees in Electrical Engineering from Georgia Tech—and his master's was in one year, I might add. That is quite an accomplishment at Tech, where our undergraduate students don't use the term freshman, sophomore, junior or senior. They refer to themselves as fourth year, or fifth year. It's part of our intellectual rigor!

Georgia Tech has strong ties to IEEE through our alumni, our faculty, staff, and our students. Our alumni are active in IEEE throughout the world. In the Atlanta section alone, which serves more than 5,100 members throughout northern Georgia, four of the five of its 2010 executive officers are employees of Georgia Tech and Georgia Tech Research Institute, or GTRI. Georgia Tech faculty, staff and alumni have leadership roles in the eleven IEEE technical chapters in Atlanta.

Electrical and Computer Engineering at Georgia Tech has 38 IEEE Fellows among its faculty. Other engineering units at Georgia Tech also have IEEE Fellows in their ranks, as does GTRI, and the College of Computing. Georgia Tech holds a unique distinction in the Class of 2010 IEEE Fellows. Georgia Tech was one of six U.S. universities to have five of its faculty members elevated to the rank of IEEE Fellow, the most at any academic institution in the United States.

A Georgia Tech professor is the recipient of your organization's highest level medal, the IEEE Medal of Honor. Dr. Jim Meindl is the director of the Microelectronics Research Center and the Nanotechnology Research Center at Georgia Tech. He was honored for pioneering contributions to

microelectronics, including low power, biomedical, physical limits and on-chip interconnect networks.

The IEEE Student Branch at Tech has 800 members—including students and faculty, making it the largest student branch in the nation. Joining us today is Drew Blackburn, president of our IEEE student branch. I want to brag on Drew, and our IEEE student chapter for a minute.

Drew comes to Tech from Annapolis, Maryland, and is an EE major. He is in his 3rd and final year at Tech, and will graduate in May. He is completing his degree in six semesters (Pedro—I think you have been upstaged!). He is an honor student with a 4.0 GPA.

Our IEEE student organization has been recognized as Outstanding Student Branch of the Year and Exemplary Student Branch for four years running.

These students are among the 80,000 IEEE student members throughout the world. I commend your organization for placing so much emphasis on students, as they are the ones who will solve the most pressing problems facing society and will lead technological changes we never dreamed of.

To give you some perspective, incoming students in fall 2010 were born in 1991 - the same year the Web Browser was invented.

- They have never used a card catalog to find a book
- Texting with two thumbs is the norm
- WWW does not stand for "World Wide Wrestling"
- Doing homework on a computer is routine
- They have had very little exposure, if any, to an 8-track, VHS, or a music LP.
- To them, a typewriter is an artifact seen in a museum
- A television in every room is assumed. And at least one of them is high definition, probably mounted to the wall.
- They use e-mail to send letters, cards, invitations
- Web surfing and a Latté at Starbucks go together, and

- A Blackberry is not a fruit

These students bring a fresh perspective, and they are used to fast-paced change.

In the fall of 2009 Georgia Tech welcomed its largest, best qualified and most diverse freshman class in the University's history. We have 20,000 students, with women making up about a third of the student body.

This fall, every one of our undergraduate engineering programs ranked in the top ten nationally, and we are a national leader in graduating minority and female engineers. We are number one in graduating African American engineers, and number two in graduating Hispanic engineers.

We are the seventh best public university in the country. In addition to engineering, we also have outstanding programs in architecture, computing, liberal arts, management, and the sciences.

Here are some things about Tech that may surprise you.

Despite the fact that no major outside of the School of Modern Languages requires language study, roughly 40 percent of Tech students study a language.

More than a third of Georgia Tech's undergraduates study abroad, compared to one to two percent of undergraduates nationwide and less than 1% of engineering undergraduate students nationwide. We live in a global society, and the graduates who have an international perspective and an ability to work well with different cultures and discipline areas will have a distinct competitive advantage.

I would say that when they get their degrees they will be prepared to solve important problems. But the truth is, they already are.

Undergraduate and graduate students participate in research projects that are quite impressive. On Monday night, I participated in the 2010 Georgia Tech Research and Innovation conference for graduate students. It is

designed to showcase interdisciplinary research at Georgia Tech.

We had more than 340 grad students to participate in research competition, 200 of which were from the College of Engineering.

Let me share just a few of the things they're doing to show the breadth of their research.

- Vertical farms for a sustainable approach to urban agriculture
- Computer game development
- Rotor craft transmission design for heavy lift helicopters
- A project for watershed governance in Peru
- Reinventing genetic screening methods
- Dusty, the assistive robot that fetches objects for you

Pretty impressive—and this is only a random sample. Faculty and students are partnering on breakthrough research in transdisciplinary areas.

Just this week on Tech's Web site home page we have a story on magnetic nanoparticles that have promise for fighting human cancer.

Scientists at Georgia Tech and the Ovarian Cancer Institute have further developed a potential new treatment that uses magnetic nanoparticles to attach to cancer cells, removing them from the body. The treatment has now been tested using samples from human cancer patients. The idea came to the research team from the work of a graduate student.

Think about the difference their work will make on potentially thousands of lives.

I've been at Tech almost a year now. When I first made the decision to leave Colorado and come to Atlanta, I was asked by a number of people what my primary motivation was to come to Tech. I told them that I believe if we are going to find solutions to some of the most pressing problems facing our society today, they're going to be discovered, designed, and developed at places like Georgia Tech.

We can only imagine what the future will hold. We're developing a 25-year Strategic Plan for the Institute to take us to our 150th anniversary. We're exploring big ideas to ensure our research preeminence, redesign education, sustain and enhance our culture, enrich the student experience, enhance our role in Georgia and throughout the world, lead in big payoff, transdisciplinary ideas and establish best-in-class business processes.

We have had input from hundreds of faculty and students, as well as a number of groups in the community resulting in about 1,000 ideas. Let me give an example.

One of the ideas submitted was the concept of lifelong learning. Because technology is changing so rapidly, what students learn in college will need to be supplemented. What if we were to allow Georgia Tech grads to come back and take any classes free of charge, on a space-available basis, for their lifetime?

That is just one of the things we're considering. We're drafting the plan now, and it will be introduced next fall. You can keep up with our progress on Tech's web site.

It has been said that we are preparing students for careers that don't yet exist to solve problems that we don't even know are problems.

Our place among the best universities is continually being challenged and we will be judged not by how well we have done in the past, but rather by how well we can meet the evolving needs of the world around us.

Thank you for inviting me to talk with you today. It is our privilege to partner with you as we advance innovation and technological excellence for the benefit of humanity.